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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,354	05/18/2006	Gerhard Schanz	3578	4394

278 7590 09/23/2010
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EXAMINER

ZALASKY, KATHERINE M

ART UNIT	PAPER NUMBER
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1797

NOTIFICATION DATE	DELIVERY MODE
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09/23/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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DETAILED ACTION

Advisory Action

1. The proposed amendments to the claims will not be entered as they add new limitations to the independent claim. The addition of "said microstructure parts (6) are in direct contact with said mixing zone but not in direct contact with said at least one inlet opening (2)." This limitation changes the scope of the claim by narrowing the claim language.
2. Applicant has presented similar arguments to those submitted on 28 May 2010. Many of these arguments have already been addressed in the Office Action of 17 August 2010 ("Office Action"). Applicant has stated that the Office Action does not address the limitation that the microstructure parts dividing the linking channel into part channels is not in contact with the inlet opening. In response, applicant is directed to annotated Figure 2 on page 5 of the Office Action. The inlet openings are in contact with the admission chambers (7A and 7B), though the openings themselves are not explicitly shown or described. The part channels (at 3A and 3B) divide the admission chambers (7A, 7B) into sub-channels. These part channels are in direct contact with the mixing chamber (9C). The applicant has focused their arguments on the absence of the linking channel in Figure 1 of the reference. It is noted that admission chambers (i.e. "linking channels") are shown in Figure 2. Additionally, one of ordinary skill in the art would envisage that the liquid to be conveyed into the admission chambers and through the grooves into the mixing chamber would need to pass through some type of passage or channel in order to arrive in the admission chamber. Surely, the liquid is not simply poured into or sprayed against the faces (6A, 6B) of the structure shown in Figure 1. Therefore, applicant's arguments regarding this point are not persuasive.

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3. The applicant has again argued that the arced parallel channels, being of equal length is critical to Schubert, and thus the pentagonal shape of the structure is also critical. Although these arguments were previously addressed, applicant feels that the citations they provided for support were overlooked and the examiner's response was incomplete. First, the applicant cited C2/L53-C3/L32. This citation (while being very broad) explains how the arc-like grooves are formed; the reference presents formulas to determine how the lengths of these grooves remain constant given the pentagonal shape of the structure. This citation does not present information that states that the pentagonal shape is the critical element of the structure. Rather, the citation emphasizes that the goal of the divided part channels is to be parallel and of equal length. These goals are achievable through base shapes other than pentagonal. Applicant has also stated that the reference does not state that the pentagonal shape is used for ease of manufacture and that the pentagonal shapes are taken from a disk; in the previous response, applicant cited figure 3. To the latter point, applicant has offered no citation. At C3/L39-52 and Figure 3, the reference indicates that the pentagonal portions are cut from rectangular foil 13, not the disk of 12 (which is the base for the rotatable cutting mechanism). From this description and figure, in addition to C2/L49-61, it may be inferred that the reference prefers a pentagonal shape because grooves can be applied to four pieces in a single motion. Thus, there is an apparent ease of manufacture with this design which is why the reference appears to prefer the pentagonal shape. Second, the applicant cited figure 3. Finally, applicant cited C2/L10-24, stating that the pentagonal shape offers the advantage of high packing density. This citation refers to the use of microstructuring of rows of passages allowing a high density of passage openings to be within a small area. This

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citation does not pertain to the pentagonal shape. All of these points are believed to have been made in the Office Action, but are repeated here in more detail.

4. In response to applicant's argument that the combination of Ehrfeld and Schubert would destroy the function of both, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Ehrfeld shows that disk shaped plates are known in the art and are known to be used in stacks, similar to the pentagonal plates of Schubert. Additionally, Ehrfeld (calling them subsidiary channels) provides suggestions as to what the admission chambers and mixing chamber (which are notably lacking in detail in Schubert) may look like when stacks of plates are put together.

5. The Applicant has addressed individual dependent claims as well. Arguments to many of the dependent claims are believed to already be addressed. Applicant has stated that the rejection of claim 6 makes no grammatical sense. The language used is directly taken from claim 6; the claim essentially states that the ratio of the width of the linking channel to the width of the part channel is greater than 2. The citation states that the admission chambers of the reference are linking channel of the claim; the grooves separated by walls are the part channels. Inherently, the width of the admission chamber is twice as great as the width of the individual groove (Figure 1, the admission chamber must be at least as wide as the plurality of grooves, plus the wall thickness between the grooves, C2/L40-53). The citations of claims 9 and 10 are from

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Ehrfeld, not Schubert, as Schubert does not provide any details of the overall structure once the plates have been formed into a stack.

6. Applicant has stated that the finality of the Office Action should be withdrawn because the examiner did not articulate responses to all applicant's arguments. In particular, the response did not address specific citations to the reference art made in the applicant arguments. The specific citations addressed by applicant's arguments on 28 May 2010 were reviewed by the examiner and were assumed to provide evidence for the arguments presented by applicant. All of the points conveyed by these citations and to the main arguments presented are believed to be addressed in the paragraphs 7-9 of the Office Action and through clarifications made in the body of the rejection. Moreover, the grounds of rejection did not change. Therefore, the finality of the Office Action is deemed to be proper.

/K. Z./

Examiner, Art Unit 1797

/Krishnan S Menon/

Primary Examiner, Art Unit 1797